CIVIL ENGINEERING

Volume 11

January—December 1941

Published by the
American Society of Civil Engineers
33 West 39th Street, New York, N.Y.

In this Index, quotation marks are used to indicate signed articles (other than those appearing in the "Our Readers Say" Department) and the more comprehensive unsigned items.

The Society is not responsible for any statements made or opinions expressed in its publications.

Reprints from this publication may be made on condition that full credit be given CIVIL ENGINEERING *and the author, and that date of publication be stated.*

COPYRIGHT, 1941, BY THE
AMERICAN SOCIETY OF CIVIL ENGINEERS
Printed in U.S.A.

INDEX TO CIVIL ENGINEERING

January—December 1941

SUBJECT INDEX

ACCIDENTS
See Safety

AERONAUTICS
"Problems in Aircraft Plant Expansion." Paul E. Tignor ... 389
"Trick Mechanisms Sustain Modern Aircraft." W. W. Beman ... 87
See also Impact Loads

AGGREGATES
"Construction Features of Shasta Project." Ralph Lowry. (Part I) ... 350
(Part II) ... 409

AIR RAIDS
"Shelter for Civilians in Modern Warfare." Joseph D. Lewin ... 157

AIRPLANES
"Airplane Impact Loads on Buried Pipes." Robert G. Scott ... 524
Discussion: H. E. Cotton, 672
Effect of airplanes on highway travel ... 424
"Problems in Aircraft Plant Expansion." Paul E. Tignor ... 389

AIRPORTS
"Airport Planning for National Defense." Edwin C. Kelton ... 718
"Construction of Military Air Fields." Carroll T. Newton ... 207
Discussion: R. A. Hart, 431
National defense stimulates construction of civil air fields ... 252
"Protective Design for Military Airports." Discussion: Charles G. Loring, 173; William Whipple, 240; Charles Y. Banfill, 307.
"Runways for the Washington National Airport." E. L. Tarwater ... 165

AMERICAN SOCIETY OF CIVIL ENGINEERS
Alfred Noble Prize—*See* Awards
Annual Convention (1941) ... 364, 435, 500, 555
Annual Meeting (1941) ... 47, 122
Annual Meeting (1942) ... 734
Annual Report (1940), excerpts from ... 120
Assistant Secretary leaves for active service with navy ... 376
Awards
Alfred Noble Prize ... 183
Awards of Local Sections to students ... 677
Comfort A. Adams awarded the Lamme Medal of the A.I.E.E. ... 261
Construction Engineering Prize ... 64
Daniel W. Mead Prizes ... 125, 253, 558, 676
Freeman Scholarship ... 63, 82, 316, 375, 452
J. Waldo Smith Fellowship ... 185, 317
Society awards for 1940 ... 678
Society prizes and medals ... 55
Badges for Christmas gifts ... 674
Biographical records ... 185, 255, 446
Board of Direction—Abstracts of minutes of meetings ... 178, 179, 374, 557
Business Meeting in San Diego ... 557
Civil Engineering
Donald P. Barnes, editor of, called to active military service ... 369
Howard F. Peckworth becomes editor of ... 377
Begins twelfth year ... 624
Civilian Protection in War Time, National Committee on, activities of ... 64, 125, 251, 378
Committees
New Committee on Society Relations formed by change in By-Laws ... 187
See also Names of Committees
Constitution—Article IV of By-Laws changed ... 187
Construction Engineering Prize—*See* Awards
Daniel W. Mead Prizes—*See* Awards
Engineering Education, Committee on—To pursue broad program ... 253
Fall Meeting (1941) ... 553, 615, 673
Field Secretary—Society appoints new ... 558
Freeman Scholarship—*See* Awards
Hawaii Section—Field of soil mechanics outlined by Committee of ... 317
J. Waldo Smith Fellowship—*See* Awards

Issue	Page Numbers
January	1–76
February	77–136
March	137–198
April	199–266
May	267–324
June	325–386
July	387–458
August	459–510
September	511–566
October	567–634
November	635–694
December	695–758

Juniors
Committees on Graduates appointed by Board to aid students applying for Junior membership ... 626
Committee on, recommends action ... 185
San Francisco Junior Forum helps candidates for professional examination ... 443
Self-appraisal blanks get expanded use ... 500
Lantern Lectures
Offered to students ... 678
Revised ... 253
Life membership awarded to certain members ... 62
Local Sections
Awards to students ... 677
Conference in Baltimore ... 370
Enlarging section membership ... 369
News ... 66, 126, 187, 255, 318, 379, 453, 502, 560, 627, 680, 744
Proceedings as a source of program material for meetings ... 626
Program planning ... 370
Publish yearbooks ... 446
Representatives at Chicago Local Sections Conference ... 676
Manuals
Manual on Control Surveys ... 61
New manual on military roads ... 626
Soil mechanics manual to be published ... 445
"Standards of Professional Conduct"—a manual of engineering practice ... 317
Maryland Section
Stimulates Junior activities ... 126
Meetings
Schedule for, in 1942 ... 554
Membership
Committees on Graduates appointed to aid students in applying for Junior membership ... 626
Deceased members ... 73, 133, 193, 262, 323, 385, 457, 506, 564, 633, 692, 752
Grade changes ... 74, 134, 194, 263, 324, 386, 458, 507, 565, 634, 693, 753
Honorary members die ... 61, 443, 557
Honorary members elected ... 57, 674
Members called to active duty ... 132
Tops 17,000 ... 675
Mid-South Section
Spring meeting of ... 317
National Defense
Division of responsibilities and work ... 181
Finding your place in the army ... 130
Military departments continue to call reserve officers ... 70
Military service of Society members ... 61
Professional collaboration on national defense housing projects ... 181
Society's Committee on Civilian Defense affiliated with War Department ... 125
Nebraska salaries raised as sequel to survey ... 444
Nebraska Section—Aids its students and Juniors ... 186
Nebraska state engineering employees aided by Society's salary survey ... 375
Official Nominees
Final Ballot on Society officers for 1941 ... 126
Professional Records of ... 735
Results of First Ballot for ... 554
Result of Second Ballot for ... 675
Post-war planning—Society's stand on ... 677
Presidents
Biographical sketch of Frederick H. Fowler ... 119
D. H. Sawyer dies ... 453
E. B. Black nominated for 1942 ... 673
Proceedings as a source of program material for Local Sections and Student Chapters ... 626
Resolution sent to President Roosevelt on cooperation of Society in national defense program ... 559
Sacramento Section's Speaker's Club ... 626
Salary Surveys—Progress in salary adjustments reported by Arizona, Nevada, and Nebraska highway departments ... 501
San Francisco Section
Aids in undergraduate summer placement ... 317
Junior Forum helps candidates for professional examinations ... 443
Society Prizes—*See* Awards
Society representatives ... 65, 255, 377, 559, 626, 678
Spring Meeting ... 177, 243, 253, 366
Stresses in Railroad Track, Joint Committee with American Railway Engineering Association on, disbanded ... 365
Student Chapters
Annual reports ... 628, 684, 747
Brooklyn Polytechnic Student Chapter enjoys hospitality of Rensselaer group ... 64
Conferences held ... 371
Data compiled from 1941 Annual Reports of ... 681
Handbook for students is issued ... 502
Lantern Lectures offered to ... 678
More conferences held ... 445
Notes ... 68, 129, 189, 257, 320, 381
Proceedings as a source of program material for meetings ... 626
Recognition of accomplishments during 1940–1941 ... 679
Self-appraisal blanks get expanded use ... 500
Suggestions for next year's Student Chapter secretary ... 679
Technical Divisions—New members on Executive Committees of ... 678
Transactions, Volume 106 ... 625
Treasurer
Resolution commemorating Dr. Hovey ... 365
Charles E. Trout becomes new ... 376
"The Society in a National Emergency." Frederick H. Fowler ... 459
Yearbook (1941) to be distributed with April *Proceedings* ... 255

AMERICAN SOCIETY OF ENGINEERS
Refused the use of the mails ... 554

AMERICAN STANDARDS ASSOCIATION
Issues revised edition of "American Standard Abbreviations for Scientific and Engineering Terms" ... 456
Prepares code of practice for users of algebraic symbols ... 500

ARCHEOLOGY
"Photo-Surveying Assists Archeologists." Robert Hall Merrill ... 233
"The Origin of the Voussoir Arch." Rudard A. Jones ... 259

ARCHES
"The Origin of the Voussoir Arch." Rudard A. Jones ... 259

ARCHITECTURE
"Esthetic Responsibilities of the Engineer." Harold M. Lewis ... 154
Discussion: Harry B. Tour, 309; L. V. Sheridan, 312

ARITHMETIC
"The Decimal Point in Slide-Rule Computations." W. D. McFarlane..... 171
Discussion: A. Santos, Jr., 360

ARMY
See United States Army

ART
"Esthetic Responsibilities of the Engineer." Harold M. Lewis..... 154
Discussion: Harry B. Tour, 309; L. V. Sheridan, 312

ASPHALT
"Emulsified Asphalt Used to Stabilize a Highway Base Course." William S. Foster..... 481

AUDITORIUMS
"Profiles for Spectator Sight Lines." C. A. Holden..... 108

AUTOMOBILE DRIVERS
"Motor-Vehicle Driver Behavior Studied by New Methods." J. Trueman Thompson..... 589

AUTOMOBILES
"Motor-Vehicle Performance Studies by New Methods." J. Trueman Thompson..... 655
See also Automobile Drivers

AWARDS
See American Society of Civil Engineers—Awards

BACTERIA
"Bacterial Contamination Improbable as an Implement of War." Carlo G. Flebus..... 147
Discussion: Charles T. Carnahan, 362

BEAMS
"A Simplified Method for Calculating Deflection of Beams." Edward Saibel 669
"Partially Restrained Structural Members." W. N. Suominen..... 110
Discussion Ralph W. Stewart, 242; W. N. Suominen, 434
"Shear and Bond Stresses in Wedge-Shaped Reinforced Concrete Beams." Robert B. B. Moorman..... 114
"Tests of Beams Reinforced with 'Bundle-Bars.'" Homer M. Hadley..... 90
Discussion: John Conzelman, 175

BITUMINOUS MATERIALS
Use of new bituminous materials for highways..... 425

BOOKS AND READING
Preserving leather book bindings..... 117

BRAKES (AUTOMOBILE)
Brake research..... 657

BRIDGE PIERS
"New Orleans Bridge Foundations." Frank M. Masters..... 220

BRIDGES
"Anatomy of an Old Covered Bridge." Irving A. Jelly..... 12
Discussion: R. Robinson Rowe, 309
Bridges for the relocation of the railroad around Shasta Dam..... 599
"Construction of Pit River Bridge." Roy M. Snell..... 513
"Developments in Western Bridge Engineering." Discussion: G. S. Richardson..... 116
"Double Swing Bridge Embodies Unique Details." J. K. Knoerle..... 79
"Engineers in River-Crossing Operations." E. P. Lock, Jr..... 139
"Erection Methods on Baton Rouge Bridge." E. L. Durkee..... 150
"Horsepower Chart for Spur Gears." E. G. Paulet..... 112
"Model Analysis of Continuous Girders." William J. Eney..... 521
Motion picture of Tacoma Bridge failure shown at Annual Meeting..... 51
Motion pictures of Tacoma Narrows Bridge failure available..... 185
"Road Work in Theaters of Military Operations." Robert H. Burrage..... 401
"Sidelights on Construction in Hawaii." Russell C. Brinker..... 201
Steel bridge awards announced..... 383
"The Baird Creek Bridge." W. J. Ryan.. 468
The Pit River Bridge as part of the Central Valley highway relocation project.. 642
"The Rainbow Bridge at Niagara Falls." Shortridge Hardesty..... 533
"Triangulation for Tacoma Narrows Bridge." Fred C. Dunham..... 143
"Weighing Reactions of Rainbow Bridge, Niagara Falls." Jonathan Jones..... 730
"Vertical-Lift Bridge Has Tower Drive." Henry C. Tammen and Ellis E. Paul.... 288
See also Bridge Piers

BRIEF NOTES
.....71, 132, 192, 261, 322, 384, 562, 691

BUILDINGS
"Cold Room Built to Test Army Equipment." John P. Dalton..... 545
"Inclination of St. Martin's Tower." Bedrich Fruhauf..... 538
"Investigations for Roofs of U.S. Capitol." Herman F. Doeleman..... 327
"Pre-Cast Concrete Piles for Residential Foundations." B. H. Johnson..... 549
"Primitive Houses of the Far East." J. Charles Rathbun..... 23
"Steel-Frame Building Moved by New Method." Charles B. Spencer..... 659
"TVA Demountable Houses Solve Construction Camp Problem." Carroll A. Towne..... 397

CABLES
"Simple Solution for Unsymmetrical Cable Span." C. M. Goodrich..... 498
Discussion: Allen H. Brownfield, 732

CANALS
Commerce diversion—Suez to Panama. Ralph Z. Kirkpatrick..... 363
"Steep Slopes Used in Nebraska Loess Soil." W. J. Turnbull..... 526
The Peary humpty-dumpty lock gate. Ralph Z. Kirkpatrick..... 174
See also Irrigation Canals

CAVITATION
"Cavitation Laboratory Practice." L. M. Davis..... 148
Discussion: L. G. Moody, 308; R. E. B. Sharp, 308

CHARTS (CALCULATING)
"Chart for Determining In-Place Density of Soils." R. E. Pidgeon and P. W. Warren..... 611

CITY PLANNING
"The Master Plan for New York City." T. T. McCrosky..... 487

CIVIL ENGINEERING
"A Proposed Undergraduate Civil Engineering Curriculum." Samuel B. Morris 123
Discussion: George C. Ernst, 175
"Adequacy of the Supply of Civil Engineers for Defense."..... 313
"Civil Engineering and the Wage and Hour Law." Philip B. Fleming..... 331

CIVIL SERVICE
See United States Civil Service

COLUMBIA UNIVERSITY
Gives free lecture program on hydraulics.. 690

COLUMNS
"Column Analogy—Some Special Applications." R. A. Caughey..... 294
"Reinforced Concrete Columns Subjected to Bending About Both Principal Axes." G. E. Troxell..... 237

COMPRESSION TESTS
"Graphic Procedure for Interpreting Triaxial Compression Tests," Frederick C. Smith and Robert Q. Brown..... 41
Discussion: William R. Perret, 176; Frederick C. Smith and Robert Q. Brown, 362

CONCRETE
"Concrete Mixing and Placing on Large Dams—II. Performance and Prices." Adolph J. Ackerman..... 19
"Construction Features of Shasta Project." Ralph Lowry. (Part I)..... 350
(Part II)..... 409
"Corrosive Effect of Inorganic Fertilizers on Concrete." Arthur F. Pillsbury.... 348
Long-time study of cement performance in concrete by Portland Cement Association..... 70
See also Reinforced Concrete

CONCRETE SLABS
"Slide Rule for Designing Reinforced Concrete Slabs." W. N. Hazen..... 731

CONNECTORS
"Tests on Wood Joints with Metal Connectors." E. George Stern..... 298

CORROSION
Corrosion of steel by salt air in Hawaii.. 202
"Corrosive Effect of Inorganic Fertilizers on Concrete." Arthur F. Pillsbury.... 348

COSTS
"Concrete Mixing and Placing on Large Dams—II. Performance and Prices." Adolph J. Ackerman..... 19

CONSTRUCTION INDUSTRY
"Applications of Soil Mechanics in the Heavy Construction Industry." Jacob Feld..... 225
Discussion: R. B. Peck, 431; Jacob Feld, 552

CONSTRUCTION UNDER NATIONAL DEFENSE
See National Defense

CONTRACTS
National defense contracts..... 471

CONTRACTOR'S PLANT
"Applications of Soil Mechanics in the Heavy Construction Industry." Jacob Feld..... 225
Discussion: R. B. Peck, 431; Jacob Feld, 552

COTTON
"Cotton Highways in Arkansas." John A. Guissinger..... 663

CYLINDERS
"Concrete Cylinders for Temporary Construction Trestles." Kenneth C. Cox.. 667

DAMS
"Concrete Mixing and Placing on Large Dams—II. Performance and Prices." Adolph J. Ackerman..... 19
"Conformity Between Model and Prototype Tests—Madden Dam Spillway." P. S. O'Shaughnessy..... 491
Discussion: F. W. Edwards, 614
"Construction Features of Shasta Project." Ralph Lowry. (Part I)..... 350
(Part II)..... 409
"Construction for Flood Control at Pittsburgh." Wilfred Bauknight..... 637
"Design and Control Testing for the Embankment of Denison Dam." Frank M. Van Auken..... 477
"Economic Possibilities of Denison Dam." G. E. Textor..... 601
Geography at Grand Coulee (comments on cover of December 1940 *Civil Engineering*)..... 117
"Lake Traverse—Bois de Sioux Project." J. W. Moreland..... 405
New bulletins in Boulder Dam series..... 71
"Oregon's Willamette Valley Project." C. R. Moore..... 333
"Possum Kingdom Dam and Power House." Charles P. Williams..... 96
"Railroad Relocation and Construction Around Shasta Dam." (Part I). J. A. Given..... 461
"Tilt of Dams Measured with Optical Device." Arthur W. Arlt..... 273
"Time Required to Saturate an Earth Dam." K. P. Karpoff..... 238
Discussion: Dean F. Peterson, Jr., 432; Robert C. Miller, 433; H. R. Cedergren, 499; K. P. Karpoff, 671
See also Power Plants

DEFENSE NEWS
See National Defense

DREDGES AND DREDGING
"World's Largest Seagoing Hopper Dredge." H. B. Vaughan, Jr..... 517

EARTH PRESSURE
"Foundation Stresses in an Elastic Solid with a Rigid Underlying Boundary." A. E. Cummings..... 665
"The Study of Earths—An American Tradition." Francis M. Baron..... 473
Discussion: Karl Terzaghi, 614; A. E. Cummings, 614; Hardy Cross, 733

EARTHQUAKES
Design of hangar to resist earthquakes.... 697
Supplemental papers on Japanese earthquake of 1923 filed with original papers in Engineering Societies Library..... 61

ECONOMICS
"Economic Balance and the Engineer." H. B. Cooley..... 387
"Economic Possibilities of Denison Dam." G. E. Textor..... 601
"Engineers and the Standard of Living." Harvey N. Davis..... 1
"Engineers and World Economy." Bernard L. Weiner..... 695
"The Battle Front for Internal Defense." H. L. Fruend..... 635

EDUCATION
"A Proposed Undergraduate Civil Engineering Curriculum." Samuel B. Morris..... 123
Discussion: George C. Ernst, 175
"An Appraisal of Engineering Education." Bruce D. Greenshields..... 218
"Backsight at a Turning Point." Warren E. Howland and Ralph B. Wiley..... 199

"Complacency in Confusion." Robert E. Doherty ... 267
Defense training in the NYA program ... 260
"Diagnosing Engineering Education." Samuel B. Morris ... 77
"Esthetic Responsibilities of the Engineer." Harold M. Lewis ... 154
Discussion: Harry B. Tour, 309; L. V. Sheridan, 312
"Science Versus Art in Engineering." J. K. Finch ... 567
Student guidance progresses in the New York area ... 442

EMBANKMENTS
"Design and Control Testing for the Embankment of Denison Dam." Frank M. Van Auken ... 477

EMPLOYMENT
"Employment and Earnings in the Engineering Profession, 1929 to 1934" ... 447
"Engineering Significance of the WPA." Perry A. Fellows ... 269
Labor reserves inadequate ... 260
"The Public Work Reserve." Melvin E. Scheidt ... 577
Undergraduate summer placement ... 317

ENGINEERING DRAWINGS
"Specifications and Plans of Ancient Times." Richard Shelton Kirby ... 393
Discussion: Edward D. Kingman, 733

ENGINEERING EDUCATION
See Education

ENGINEERING FEES AND SALARIES
"Civil Engineering and the Wage and Hour Law." Philip B. Fleming ... 331
"Employment and Earnings in the Engineering Profession, 1929 to 1934." ... 447
Fees for Army Consultants ... 561
National defense construction contracts and fees ... 471
Nebraska salaries raised ... 444
Progress in salary adjustments reports by Arizona, Nevada, and Nebraska highway departments ... 501

ENGINEERING FORMULAS
"Parameter of Catenary Curve for Any Given Span and Dip." Discussion: Allen H. Brownfield ... 44
Relation of Reynolds' Number **R** to Manning's n. Robert E. Kennedy ... 111
Discussion: A. A. Kalinske, 173; Hunter Rouse, 173; Ralph W. Powell, 359; Robert E. Kennedy, 431

ENGINEERING FOUNDATION
Annual Meeting of ... 63
Edwin H. Colpitts becomes Director of ... 690
Sponsors research fellowship on fatigue of metals ... 631
Supports investigations ... 184
Two welding research fellowships available ... 562

ENGINEERING HISTORY
"Specifications and Plans of Ancient Times." Richard Shelton Kirby ... 393
Discussion: Edward D. Kingman, 733
"The Study of Earths—An American Tradition." Francis M. Baron ... 473
Discussion: Karl Terzaghi, 614; A. E. Cummings, 514; Hardy Cross, 733
"Theodore Dehone Judah—Railroad Pioneer." John D. Galloway ... 586, 648
"William Mulholland—Engineer, Pioneer, Raconteur." J. B. Lippincott.
(Part I) ... 105
(Part II) ... 161
Discussion: A. L. Sonderegger, 311

ENGINEERING SOCIETIES LIBRARY
Papers filed in ... 123

ENGINEERS AND ENGINEERING
A buck private reports ... 432
"Economic Balance and the Engineer." H. B. Cooley ... 387
"Engineers and the Standard of Living." Harvey N. Davis ... 1
"Engineers and World Economy." Bernard L. Weiner ... 695
"Role of the Engineers in Warfare." Julian L. Schley ... 15
"Science Versus Art in Engineering." J. K. Finch ... 567
Service to profession is recognized ... 679
Socialization of the engineering profession ... 680
"Specifications and Plans of Ancient Times." Richard Shelton Kirby ... 393
Discussion: Edward D. Kingman, 733
"The Battle Front for Internal Defense." H. L. Fruend ... 635
"The Concept of Engineering—A Development of the Eighteenth Century." Discussion: Philip W. Henry, 43; Jerome Fee, 46; Edgar E. Foster, 117
"The Defense Challenge." Edward S. Bres ... 137
Discussion: Roger E. Amidon, 359
What! No Vile Villains? ... 321
"William Mulholland—Engineer, Pioneer, Raconteur." J. B. Lippincott.
(Part I) ... 105
(Part II) ... 161
Discussion: A. L. Sonderegger, 311
See also Civil Engineering ...

ENGINEERS' COUNCIL FOR PROFESSIONAL DEVELOPMENT
Accrediting and recognition stressed in annual report of ... 316
Annual Meeting in New York ... 624

ETHICS
Notre Dame Seniors adopt code of ethics ... 631
"Standards of Professional Conduct"—a manual of engineering practice ... 317

FATIGUE OF METALS
"Shear Strengths of Some Non-Ferrous Metals." A. E. Niederhoff ... 497

FERTILIZERS
"Corrosion Effect of Inorganic Fertilizers on Concrete." Arthur F. Pillsbury ... 348

FILTERS AND FILTRATION
"Chicago Plant to Filter 320 Mgd." Loran D. Gayton ... 229

FINANCE
"Recent Public Utility Financing." W. C. Gilman ... 529

FLOOD CONTROL
An American Hydrologist in China ... 749
"Construction for Flood Control at Pittsburgh." Wilfred Bauknight ... 637
"Determination of Flood-Control Benefits." Edward W. Digges ... 465
"Lake Traverse—Bois de Sioux Project." J. W. Moreland ... 405
"Multiple-Purpose Reservoir Operation." Nicholls W. Bowden. (Part I) 292
(Part II) ... 337
Discussion: M. R. Lewis, 433; Nicholls W. Bowden, 733
"Oregon's Willamette Valley Project." C. R. Moore ... 333

FLOODS
A genealogy that is "all wet" ... 191
"Computation of Flood Flows by Slope-Area Method." A. H. Davison ... 426
Discussion: John C. Harrold, 551; R. W. Davenport, 612; W. S. Eisenlohr, Jr., 613
"Flood Damage and Clean-Up at Champion Fiber Plant." Fred V. Doutt ... 205
"Simplified Flood Routing." Otto H. Meyer ... 306

FOUNDATIONS
"Boulder Transmission Line Utilizes Poured-in-Place Foundations." K. A. Reeder ... 722
"Construction of Pit River Bridge." Roy M. Snell ... 513
"Foundation Stresses in an Elastic Solid with a Rigid Underlying Boundary." A. E. Cummings ... 665
"Foundation Tests for Los Angeles Steam Plant." W. F. Swiger ... 711
"Inclination of St. Martin's Tower." Bedrich Fruhauf ... 538
"New Orleans Bridge Foundations." ... 220
"Practical Shear Tests for Foundation Design." Discussion: S. B. May, 430; George I. Uitti, 552
"Pre-Cast Concrete Piles for Residential Foundations." B. H. Johnson ... 549
"Survey of Foundation Construction Methods." Ralph H. Chambers ... 31
"The Study of Earths—An American Tradition." Francis M. Baron ... 473
Discussion: Karl Terzaghi, 614; A. E. Cummings, 614; Hardy Cross, 733

FRAMED STRUCTURES (RIGID)
"Column Analogy—Some Special Applications." R. A. Caughey ... 294

FREEWAYS
See Highways

GAGES
"A Portable Electric Water-Depth Gage." H. G. Wilm and M. H. Collet ... 305

GATES (HYDRAULIC)
"Waterways and Gates for Hydroelectric Plants." George R. Rich and Ross M. Riegel ... 101
Discussion: P. E. Gisiger, 308

GIRDERS
"Deflection of Variable-Depth Plate Girders." A. G. Strandhagen ... 547
"Model Analysis of Continuous Girders." William J. Eney ... 521

GROUND-WATER
"Artesian Versus Surface Supply—Ogden River Project." Ralf R. Woolley ... 536
"Chemical Composition of Ground Waters." M. R. Huberty ... 494
"Contamination of Ground-Water Resources." Burt Harmon ... 345

GROUTING
"Tilt of Dams Measured wth Optical Device." Arthur W. Arlt ... 273

HANGARS
"Wide-Span Hangars for the U.S. Navy." Anton Tedesko ... 697

HARBORS
"Harbor of the Sun—San Diego, Calif." R. H. Van Deman ... 421
"The Port of Baltimore." F. M. Kipp, Jr. ... 223

HIGHWAYS
"California's Plan for Freeways in Metropolitan Areas." Fred J. Grumm ... 569
"Cotton Highways in Arkansas." John A. Guissinger ... 663
"Emulsified Asphalt Used to Stabilize a Highway Base Course." William S. Foster ... 481
Federal funds for military and state highways ... 186
"Highway Relocation for Shasta Project." F. W. Haselwood ... 641
"Highway Research in Indiana." K. B. Woods ... 423
Post-war highway program being studied ... 455
"Road Work in Theaters of Military Operations." (Part I). Stuart C. Godfrey ... 282
(Part II). William N. Carey ... 341
(Part III). Robert H. Burrage ... 401
"Safe Sight Distances for Highways." Cleveland B. Coe ... 236
"Sand-Shell Admixture as Flexible Road Base." E. R. Young and R. T. Pinchback, Jr ... 286
Society publishes manual on military road construction ... 626
"Soil Studies Applied to Highway Problems." F. V. Reagel ... 35

HOUSING
"Primitive Houses of the Far East." J. Charles Rathbun ... 23
"The Master Plan for New York City." T. T. McCrosky ... 487
"TVA Demountable Houses Solve Construction Camp Problems." Carroll A. Towne ... 397

HYDRAULICS
Hydraulic laboratory developments along the eastern seaboard ... 182
Progress of Society's Committee on Hydraulic Research ... 124

HYDROELECTRIC PLANTS
See Power Plants

IMPACT LOADS
"Airplane Impact Loads on Buried Pipes." Robert G. Scott ... 524
Discussion: H. E. Cotton, 672

INDUSTRIAL WASTE
"Constructing a Treatment Plant for Industrial Waste." John W. Greenleaf, Jr. ... 483
"Contamination of Ground-Water Resources." Burt Harmon ... 345

IRRIGATION
"Chemical Composition of Ground Waters." M. R. Huberty ... 494
"Corrosive Effect of Inorganic Fertilizers on Concrete." Arthur F. Pillsbury ... 348
"Distinctive Features of the Irrigation Systems in San Diego County, Calif." Fred D. Pyle ... 645
"Multiple-Purpose Reservoir Operation." Nicholls W. Bowden ... 292
Discussion: M. R. Lewis, 433; Nicholls W. Bowden, 733
"Multiple-Use Aspects of Irrigation Projects." E. B. Debler ... 83
Discussion: M. C. Hinderlider, 310; M. R. Lewis, 433
"The Broad View of Reclamation." Discussion: John E. Field, 174; John C. Page, 240

IRRIGATION CANALS
"Conveyance Losses in Irrigation Canals." E. B. Debler ... 584
"Placing the All-American Canal in Operation." L. J. Foster ... 580

JOINTS
"Tests on Wood Joints with Metal Connectors." E. George Stern..... 298

LAND SUBDIVISION
"Cadastral Surveys of the General Land Office." Frank M. Johnson..... 7

LATIN AMERICAN RELATIONS
"Cooperation in Developing Latin America." Fred Lavis..... 511
Discussion: Ralph Z. Kirkpatrick, 612

LAW
"Cadastral Surveys of the General Land Office." Frank M. Johnson..... 7
"Civil Engineering and the Wage and Hour Law." Philip B. Fleming..... 331

LOCK-GATES
The Peary humpty-dumpty lock gate. Ralph Z. Kirkpatrick..... 174

LOCKS
"Model Tests for Navigation Lock at Oregon City, Ore." A. E. Niederhoff..... 604

LOESS
"Steep Slopes Used in Nebraska Loess Soil." W. J. Turnbull..... 526

LIVING STANDARDS
"Engineers and the Standard of Living." Harvey N. Davis..... 1

MAPS
Topographic map revisions by engineer troops seen as national defense measure. Robert S. Mayo..... 43

MATERIALS OF CONSTRUCTION
"Cotton Highways in Arkansas." John A. Guissinger..... 663
"Sand-Shell Admixture as Flexible Road Base." E. R. Young and R. T. Pinchback, Jr..... 286
"Sidelights on Construction in Hawaii." Russell C. Brinker..... 201

MATHEMATICS
Mathematical tables available..... 750
"Some Applications of the Method of Tension Coefficients." H. J. Kesner... 38

MEASURING INSTRUMENTS
"Tilt of Dams Measured with Optical Device." Arthur W. Arlt..... 273

METALS
See Fatigue of Metals

METEOROLOGY
Better weather observations at less cost. Ralph Z. Kirkpatrick..... 241
Discussion: Merrill Bernard, 552

METERS
See Water Meters

METRIC SYSTEM
Metric system should have wider study. Stanley U. Benscoter..... 732

MICROFILM
Use of microfilm technique in reproduction of technical articles. Stanley U. Benscoter..... 672
Discussion: H. S. Riesbol, 733

MODELS
"Cavitation Laboratory Practice." L. M. Davis..... 148
Discussion: L. G. Moody, 308; R. E. B. Sharp, 308
"Conformity Between Model and Prototype Tests—Madden Dam Spillway." P. S. O'Shaughnessy..... 491
Discussion: F. W. Edwards, 614
"Inexpensive Structural Models." William J. Eney..... 429
"Model Analysis of Continuous Girders." William J. Eney..... 521
"Model Tests for Navgation Lock at Oregon City Ore." A. E. Niederhoff.. 604
Sub-atmospheric hydraulic models. John C. Harrold..... 361
"Verification of Drop-Inlet Hydraulic-Model Studies by Field Tests." E. R. Dodge..... 496
Discussion: Fred W. Blaisdell, 671

MOTOR TRUCKS
"Motor-Vehicle Performance Studied by New Methods." J. Trueman Thompson..... 655

MOVING OF STRUCTURES
"Steel-Frame Buildings Moved by New Method." Charles B. Spencer..... 659

MUNICIPAL GOVERNMENT
"Municipal Transportation." Ernest P. Goodrich..... 353
"The Master Plan for New York City." T. T. McCrosky..... 487

NATIONAL COUNCIL OF STATE BOARDS OF ENGINEERING EXAMINERS
Meeting..... 624

NATIONAL DEFENSE
"Adequacy of the Supply of Civil Engineers for Defense."..... 313
"Airport Planning for National Defense." Edwin C. Kelton..... 718
Construction Division enlarged..... 180
Defense news.....184, 254, 315, 378
Defense training in the NYA program.... 260
"Design for Democracy." Karl H. Middendorff..... 444
"Engineers in River-Crossing Operations." E. P. Lock, Jr..... 139
Guide to library facilities for national defense..... 192
"National Defense Construction Work." Thomas M. Robins..... 470
New York schools form technical institute for defense training..... 69
Official defense bulletin issued by National Defense Advisory Commission... 192
"Preparedness and the Engineer." Sidney D. Kirkpatrick..... 325
Progress of Committee on Civilian Protection in War Time..... 378
Resolution of Society supporting the President of the United States in..... 559
"Road Work in Theaters of Military Operations." (Part I). Stuart C. Godfrey..... 282
(Part II). William N. Carey..... 341
(Part III). Robert H. Burrage..... 401
"Role of the Engineers in Warfare." Julian L. Schley..... 15
Selective service deferment for students... 318
"Shelter for Civilians in Modern Warfare." Joseph D. Lewin..... 157
Stimulates construction of civil air fields.. 252
Survey of community facilities needed in defense areas..... 258
Technical experts appointed to staffs of Zone Constructing Quartermasters..... 183
"The Battle Front for Internal Defense." H. L. Fruend..... 635
"The Defense Challenge." Edward S. Bres..... 137
Discussion: Roger E. Amidon, 359
"The Society and Civilian Protection." Walter D. Binger..... 251
"The Society in a National Emergency." Frederick H. Fowler..... 459
"Tennessee Valley Emergency Construction." T. B. Parker..... 10
Topographic map revisions by engineer troops seen as national defense measure. Robert S. Mayo..... 43

NATIONAL RESEARCH COUNCIL
Moves headquarters to Washington..... 625

NAVIGATION
"Model Tests for Navigation Lock at Oregon City, Ore." A. E. Niederhoff.. 604

NEWS OF ENGINEERS
.....72, 132, 192, 261, 322, 384, 456, 505, 563, 632, 691, 751

NOMOGRAPHS
"Horsepower Chart for Spur Gears." E. G. Paulet..... 112
"Nomograph Shows Economic Pipe Size." Benjamin C. Seal..... 172

OZONE
"Use of Ozone for Water Purification." Arthur Wardel Consoer..... 701

PAGE OF SPECIAL INTEREST
(Adv. Sect., p. 5), Byzantine Engineering: Hippodrome and Mosque, Istanbul, Turkey, with Egyptian Obelisk Erected in the Fourth Century (Jan.), (described, p. 69); To Divert the Colorado: Imperial Dam (Feb.); Bridging Space: Little Belt Bridge, Denmark (Mar.), (described, p. 190); Defense Construction (Apr.); Framed Spirals (May); Steel, Sinew of Defense (June); Tennessee River Harnessed: Generator Hall at Pickwick Landing Dam (July); Skyward: Pit River Bridge Pier (Aug.); Down and Under: Construction Shaft to Tunnel Headings, Brooklyn-Battery Tunn l (Sept.), (described, p. 561); Pioneers: Theodore Dehone Judah (Oct.), (described, p. 586); Moving: Five-Story Hospital Moved to Make Way for New East River Drive, New York, N. Y. (Nov.), (described, p. 690); Lift Bridge Over Neches River (Dec.), described, p. 749).

PARKS AND PARKWAYS
See City Planning

PHOTOGRAPHY
"Photo-Surveying Assists Archeologists." Robert Hall Merrill..... 233

PIERS
See Bridge Piers

PILES
"Boulder Transmission Line Utilizes Poured-in-Place Foundations." K. A. Reeder..... 722
"Dont Hit Timber Piles Too Hard." T. C. Bruns..... 726
"Foundation Tests for Los Angeles Steam Plant." W. F. Swiger..... 711
"Pre-Cast Concrete Piles for Residential Foundations." B. H. Johnson..... 549
"Survey of Foundation Construction Methods." Ralph H. Chambers..... 31

PIPE
"Airplane Impact Loads on Buried Pipes." Robert G. Scott..... 524
Discussion: H. E. Cotton, 672
"Nomograph Shows Economic Pipe Size." Benjamin C. Seal..... 172
"Relation of Reynolds' Number R to Manning's n." Robert E. Kennedy... 111
Discussion: A. A. Kalinske, 173; Hunter Rouse, 173; Ralph W. Powell, 359; Robert E. Kennedy, 431

PIPE LINES
"Cleaning a Large-Size Pipe Line in Place." W. H. Mead..... 728
"Corrosive Effect of Inorganic Fertilizers on Concrete." Arthur F. Pillsbury.... 348
Problems of pipe line construction for pumping plant..... 420

POLES
"Stability of Cantilever Poles in Sandy Soils." Robert W. Abbett..... 301
Discussion: Daniel C. Drucker, 434

POLLUTION OF WATER
See Water Pollution

PORTS
See Harbors

POST-WAR PLANNING
Preparedness for post-war conditions..... 677
"The Battle Front for Internal Defense." H. L. Fruend..... 635
"The Public Work Reserve." Melvin E. Scheidt..... 577

POWER GENERATION
"Tennessee Valley Emergency Construction." T. B. Parker..... 10

POWER HOUSES
See Power Plants

POWER PLANTS
"Possum Kingdom Dam and Power House." Charles P. Williams..... 96
"Shasta and Keswick Power Developments, Central Valley Project, California." L. N. McClellan and C. L. Killgore..... 573
"Trends in Power-Plant Space Economy." H. G. Gerdes..... 214
Discussion: Forrest Nagler, 363
"Waterways and Gates for Hydroelectric Plants." George R. Rick and Ross M. Riegel..... 101
Discussion: P. E. Gisiger, 308
See also Steam Plants

POWER TRANSMISSION
"Boulder Transmission Line Utilizes Poured-in-Place Foundations," K. A. Reeder..... 722
"Electric Power Supply of Pacific Southwest." Lester S. Ready..... 652

PRESIDENT OF THE UNITED STATES
Resolution of Society, and answer to, by Roosevelt, concerning national defense..... 559

PUBLIC LANDS
"Cadastral Surveys of the General Land Office." Frank M. Johnson..... 7

PUBLIC ROADS ADMINISTRATION
See Highways

PUBLIC UTILITIES
"Recent Public Utility Financing." W. C. Gilman..... 529

PUBLIC WORKS
Determining the value of public works expenditures. Roger E. Amidon..... 175
Economic Studies for Public Works. Discussion: J. L. Campbell, 44; Walter H. Wheeler, 46; John E. Field, 176

"Engineering Significance of the WPA." Perry A. Fellows..... 269
"The Public Works Reserve." Melvin E. Scheidt..... 577

PUMPING STATIONS
"Performance Tests of Large Pumping Plant." C. Frank Johnson..... 703

PUMPS AND PUMPING
"High-Head Pumping for Flathead Project." Russell G. Hornberger..... 417
Pumps for world's largest hopper dredge.. 519

PUZZLES AND PROBLEMS
Prof. N. G. Neare's Column.....70, 131, 190, 258, 321, 382, 455, 504, 562, 631, 690, 749

RAILROAD CARS
"Stable Equilibrium for Railway Cars." George E. Solnar, Jr..... 413

RAILROADS
Committee on Stresses in Railroad Track disbanded..... 365
"Engineering Aspects of Safety Work in Railroad Maintenance." George M. O'Rourke..... 593
"Railroad Relocation and Construction Around Shasta Dam." J. A. Given. (Part I)..... 461
(Part II)..... 597
"Theodore Dehone Judah—Railroad Pioneer." John D. Galloway.....586, 648
See also Bridges, Railroad Cars

RAINFALL
"Sixty-Year Rainfall Record Analyzed." Discussion: C. Frank Johnson 118
"The Effect of Wind on Rainfall." F. B. Marsh..... 611
"Water Resources of the Mid-Continent Area." Discussion: L. C. Crawford, 45; R. E. Kennedy, 45; Lloyd L. Harrold, 115

RECLAMATION
"Harbor of the Sun—San Diego, Calif." R. H. Van Deman..... 421
"The Broad View of Reclamation." Discussion: John E. Field, 174; John C. Page, 240

REFRIGERATION
"Cold Room Built to Test Army Equipment." John P. Dalton..... 545

REFUSE DISPOSAL
"Constructing a Treatment Plant for Industrial Waste." John W. Greenleaf, Jr..... 483

REGISTRATION OF ENGINEERS
Promotion of registration of engineers.... 187

REINFORCED CONCRETE
"Reinforced Concrete Columns Subjected to Bending About Both Principal Axes." G. E. Troxell..... 237
"Shear and Bond Stresses in Wedge-Shaped Reinforced Concrete Beams." Robert B. B. Moorman..... 114
"Tests of Beams Reinforced with 'Bundle-Bars.'" Homer M. Hadley..... 90
Discussion: John Conzelman, 175
"Wide-Span Hangars for the U.S. Navy." Anton Tedesko..... 697

RESERVOIRS
"Multiple-Purpose Reservoir Operation." Nicholls W. Bowden. (Part I)..... 292
(Part II)..... 337
Discussion: M. R. Lewis, 433; Nicholls W. Bowden, 733
"Multiple-Use Aspects of Irrigation Projects." E. B. Debler..... 83
Discussion: M. C. Hinderlider, 310; M. R. Lewis, 433

RIGID FRAMES
See Framed Structures (Rigid)

RIVERS
"Contamination of Ground-Water Resources." Burt Harmon..... 345
"Oregon's Willamette Valley Project." C. R. Moore..... 333
"Staining Natural River Sands for Studies of Sediment Movement." Richard G. Grassy..... 668

ROADS
See Highways

ROOFS
Barrel shell roof for new hangar..... 697
"Investigations for Roofs of U.S. Capitol." Herman F. Doeleman..... 327

RUNOFF
"Possible and Probable Future Floods." Discussion: C. C. Inglis, 241

SAFETY
"Engineering Aspects of Safety Work in Railroad Maintenance." George M. O'Rourke..... 593

SAMPLING
"Silt Samplers Compared in Special Tests." David S. Jenkins..... 3
Discussion: M. A. Churchill, 310

SAND
"Sand-Shell Admixture as Flexible Road Base." E. R. Young and R. T. Pinchback, Jr..... 286
"Staining Natural River Sands for Studies of Sediment Movement." Richard G. Grassy..... 668

SANITATION
"Constructing a Treatment Plant for Industrial Waste." John W. Greenleaf, Jr..... 483

SECURITIES
"Recent Public Utility Financing." W. C. Gilman..... 529

SEDIMENTATION
Abstracts on, compiled by Soil Conservation Service..... 322
"Staining Natural River Sands for Studies of Sediment Movement." Richard G. Grassy..... 668

SEEPAGE
Protection against seepage in the All-American Canal..... 581
"Time Required to Saturate an Earth Dam." K. P. Karpoff..... 238
Discussion: Dean F. Peterson, Jr., 432; Robert C. Miller, 433; H. R. Cedergren, 499; K. P. Karpoff, 671

SEWAGE DISPOSAL
"Controlling Pollution of Oyster Growing Waters of Chesapeake Bay." George L. Hall..... 715
"Details of Design Affecting Operation of Sewage Treatment Plants." C. E. Schwob..... 541
"Flexible Sewage Treatment for Army Camps." Rolf Eliassen..... 707
"Flow in Effluent Troughs." Randolph H. Dewante and E. Ralph Stowell..... 212
Discussion: W. E. Howland, 432
"New Sewage Treatment Plant at Anderson, Ind." B. A. Poole..... 275
Discussion: A. L. Genter, 431

SEWAGE TREATMENT PLANTS
See Sewage Disposal

SEWERS
"Simplified Stress Analysis of Three-Ring Sewers." Discussion: Scott W. Orr... 115
"Technique for a Survey of Old Sewers." C. Frank Johnson..... 27

SHELTERS
See Air Raids

SHIPS
"World's Largest Seagoing Hopper Dredge." H. B. Vaughan, Jr..... 517

SIGHT LINES
"Profiles for Spectator Sight Lines." C. A. Holden..... 108

SILT
"Silt Samplers Compared in Special Tests." David S. Jenkins..... 3
Discussion: M. A. Churchill, 310

SLIDE RULE
"Slide Rule for Designing Reinforced Concrete Slabs." W. N. Hazen..... 731
"The Decimal Point in Slide-Rule Computations." W. D. McFarlen..... 171
Discussion: A. Santos, Jr., 360

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION
Holds forty-ninth Annual Meeting..... 505

SOIL MECHANICS
An official language for soil mechanics... 445
"Applications of Soil Mechanics in the Heavy Construction Industry." Jacob Feld..... 225
Discussion: R. B. Peck, 431; Jacob Feld, 552
Field of soil mechanics outlined by Committee of Hawaii Section..... 317
"Soil Studies Applied to Highway Problems." F. V. Reagel..... 35

SOIL STABILIZATION
"Emulsified Asphalt Used to Stabilize a Highway Base Course." William S. Foster..... 481

SOILS
"Chart for Determining In-Place Density of Soils." R. E. Pidgeon and P. W. Warren..... 611
"Design and Control Testing for the Embankment of Denison Dam." Frank M. Van Auken..... 477
"Foundation Tests for Los Angeles Steam Plant." W. F. Swiger..... 711
Ground waters may cause physical changes in soils..... 495
"Highway Research in Indiana." K. B. Woods..... 423
"Inclination of St. Martin's Tower." Bedrich Fruhauf..... 538
Report of the Committee on Sampling and Testing of the Soil Mechanics and Foundations Division, on "The Present Status of the Art of Obtaining Undisturbed Samples of Soils," available..... 65
"Silt Samplers Compared in Special Tests." David S. Jenkins..... 3
Discussion: M. A. Churchill, 310
"Soil Studies Applied to Highway Problems." F. V. Reagel..... 35
"Steep Slopes Used in Nebraska Loess Soil." W. J. Turnbull..... 526
"The Study of Earths—An American Tradition." Francis M. Baron..... 473
Discussion: Karl Terzaghi, 614; A. E. Cummings, 614; Hardy Cross, 733

SOUTH AMERICA
See Latin American Relations

SPECIFICATIONS
"Specifications and Plans of Ancient Times." Richard Shelton Kirby..... 393
Discussion: Edward D. Kingman, 733

SPEED
"Motor-Vehicle Driver Behavior Studied by New Methods." J. Trueman Thompson..... 589

SPILLWAYS
"Conformity Between Model and Prototype Tests—Madden Dam Spillway." P. S. O'Shaughnessy..... 491
Discussion: F. W. Edwards, 614
"Stability of Spillway Channel Side Walls." Stanley Benscoter..... 358

STADIUMS
"Profiles for Spectator Sight Lines." C. A. Holden..... 108

STEAM PLANTS
"Foundation Tests for Los Angeles Steam Plant." W. F. Swiger..... 711

STRAINS AND STRESSES
"Column Analogy—Some Special Applications." R. A. Caughey..... 294
"Graphic Procedure for Interpreting Triaxial Compression Tests." Frederick C. Smith and Robert Q. Brown..... 41
Discussion: William R. Perrett, 176; Frederick C. Smith and Robert Q. Brown, 362
"Partially Restrained Structural Members." W. N. Suominen..... 110
Discussion: Ralph W. Stewart, 242; W. N. Suominen, 434
"Reinforced Concrete Columns Subjected to Bending About Both Principal Axes." G. E. Troxell..... 237
"Shear and Bond Stresses in Wedge-Shaped Reinforced Concrete Beams." Robert B. B. Moorman..... 114
"Shear Strengths of Some Non-Ferrous Metals." A. E. Niederhoff..... 497
"Simplified Design of Indeterminate Truss Members." Merhyle F. Spotts.. 303
"Some Applications of the Method of Tension Coefficients." H. J. Kesner... 38

STRUCTURES, THEORY OF
"Partially Restrained Structural Members." W. N. Suominen..... 110
Discussion: Ralph W. Stewart, 242; W. N. Suominen, 434
"Simplified Design of Indeterminate Truss Members." Merhyle F. Spotts.. 303

SURVEYING
"A Graphical Method for Land Subdivision Problems." Discussion: Howard B. Stanley, 116
"Cadastral Survey of the General Land Office." Frank M. Johnson..... 7
"Photo-Surveying Assists Archeologists." Robert Hall Merrill..... 233
"Precise Alinement by Sag-Wire and Optical Methods." Carl I. Aslakson..... 279
"Railroad Relocation and Construction Around Shasta Dam" (Part I). J. A. Given..... 461
Resolution to Stimulate State Systems of Plane Coordinates..... 186
"Roger Sherman, Colonial Surveyor." Discussion: Edward D. Kingman, 43

"Shortcut to Indirect Leveling." Discussion: E. L. Harrington 118
"Technique for a Survey of Old Sewers." C. Frank Johnson 27

SYMBOLS
Code of practice for users of algebraic symbols prepared by the American Standards Association 500

TARGETS
"Automatic Infantry Combat Target." A. George Mallis 610

TENNESSEE VALLEY AUTHORITY
"Multiple-Purpose Reservoir Operation." Nicholls W. Bowden 336
Publishes new technical reports 504
"Tennessee Valley Emergency Construction." T. B. Parker 10
"TVA Demountable Houses Solve Construction Camp Problem." Carroll A. Twone 397

TESTING MACHINES
"Silt Samplers Compared in Special Tests." David S. Jenkins 3
Discussion: M. A. Churchill, 310

TIMBER
"Don't Hit Timber Piles Too Hard." T. C. Bruns 726
Termite problem in Hawaii 202
"Tests on Wood Joints with Metal Connectors." E. George Stern 298
"The Baird Creek Bridge." W. J. Ryan .. 468

TOPOGRAPHIC MAPPING
See Maps

TOWERS
"Inclination of St. Martin's Tower." Bedrich Fruhauf 538

TRACKS
Laying of track for relocation of railroad around Shasta Dam 600

TRAFFIC
"California's Plan for Freeways in Metropolitan Areas." Fred J. Grumm 569
"Motor-Vehicle Driver Behavior Studied by New Methods." J. Trueman Thompson 589
"Motor-Vehicle Performance Studied by New Methods." J. Trueman Thompson 655
"Municipal Transportation." Ernest P. Goodrich 353

TRANSMISSION LINES
See Power Transmission

TRANSPORTATION
"Municipal Transportation." Ernest P. Goodrich 353
"The Master Plan for New York City." T. T. McCrosky 487

TRESTLES
"Concrete Cylinders for Temporary Construction Trestles." Kenneth C. Cox .. 667

TRIANGULATION
"Triangulation for Tacoma Narrows Bridge." Fred C. Dunham 143

TRUCKS
See Motor Trucks

TRUSSES
"Simplified Design of Indeterminate Truss Members." Merhyle F. Spotts .. 303

TUNNELS
Tunnels for the relocation of the railroad around Shasta Dam 598

TURBINES (WATER)
An innovation in large turbine design 575
"Cavitation Laboratory Practice." L. M. Davis 148
Discussion: L. G. Moody, 308; R. E. B. Sharp, 308

UNITED STATES ARMY
A buck private reports 432
"Cold Room Built to Test Army Equipment." John P. Dalton 545
Construction Division enlarged 180
"Construction of Military Air Fields." Carroll T. Newton 207
Discussion: R. A. Hart, 431
"Engineers in River-Crossing Operations." E. P. Lock, Jr. 139
"Flexible Sewage Treatment for Army Camps." Rolf Eliassen 707
"Road Work in Theaters of Military Operations." (Part I). Stuart C. Godfrey 282
(Part II). William N. Carey 341
(Part III). Robert H. Burrage 401
"Role of the Engineers in Warfare." Julian L. Schley 15

UNITED STATES CIVIL SERVICE
Examinations announced 260
New examination for engineering positions announced 455
New examination for inspectors of hulls and boilers announced 505
New examinations in fields of photogrammetry and topography announced 562

UNITED STATES GOVERNMENT
"Engineering Significance of the WPA." Perry A. Fellows 269
"Investigations for Roofs of U.S. Capitol." Herman F. Doeleman 327
"National Defense Construction Work." Thomas M. Robins 470
Socialization of the engineering profession 680

WAGE AND HOUR LAW
"Civil Engineering and the Wage and Hour Law." Philip B. Fleming 331

WARFARE
"Automatic Infantry Combat Target." A. George Mallis 610
"Bacterial Contamination Improbable as an Implement of War." Carlo G. Flebus 147
Discussion: Charles T. Carnahan, 361
"Engineers in River-Crossing Operations." E. P. Lock, Jr. 139
"Road Work in Theaters of Military Operations." (Part I). Stuart C. Godfrey 282
(Part II). William N. Carey 341
(Part III). Robert H. Burrage 401
"Role of the Engineers in Warfare." Julian L. Schley 15
"Shelter for Civilians in Modern Warfare." Joseph D. Lewin 157

WATER
Contemplated revision of drinking water standards 260

WATER ANALYSIS
"Chemical Composition of Ground Waters." M. R. Huberty 495

WATER CONSERVATION
"Lake Traverse—Boise de Sioux Project." J. W. Moreland 405

WATER FLOW
"Relation of Reynolds' Number R to Manning's n." Robert E. Kennedy .. 111
Discussion: A. A. Kalinske, 173; Hunter Rouse, 173; Ralph W. Powell, 359; Robert E. Kennedy, 431

WATER, FLOW OF, IN OPEN CHANNELS
"Computation of Flood Flows by the Slope-Area Method." A. H. Davison .. 426
Discussion: John C. Harrold, 551; R. W. Davenport, 613; Wm. S. Eisenlohr, Jr., 613
"Conveyance Losses in Irrigation Canals." E. B. Debler 584
"Effects of Curvature in Supercritical Flow." Warren E. Wilson 94
"Flow in Effluent Troughs." Randolph H. Dewante and E. Ralph Stowell 212
Discussion: W. E. Howland, 432
"On the Four Regimes of Open-Channel Flow." J. M. Robertson and Hunter Rouse 169
Discussion: J. C. Stevens, 311; John M. Haley and M. R. Lewis, 312; J. V. Spellman, 433
"Simplified Flood Routing." Otto H. Meyer 306
"Velocity Distribution in Open Channels." Vito A. Vanoni 356
"Conformity Between Model and Prototype Tests—Madden Dam Spillway." P. S. O'Shaughnessy 491
Discussion: F. W. Edwards, 614
"Theoretical Discharge Coefficients for a Weir of Ogee Profile." I. Nelidov 40
"Verification of Drop-Inlet Hydraulic-Model Studies by Field Tests." E. R. Dodge 496
Discussion: Fred W. Blaisdell, 671

WATER MEASUREMENT
See Gages, and Water Meters

WATER METERS
"Novel Construction of a Large Venturi Meter." Leon Small 550

WATER POLLUTION
"Constructing a Treatment Plant for Industrial Waste." John W. Greenleaf, Jr. 483
"Contamination of Ground-Water Resources." Burt Harmon 345
"Controlling Pollution of Oyster Growing Waters of Chesapeake Bay." George L. Hall 715

WATER PURIFICATION
See Water Supply

WATER SUPPLY
"Artesian Versus Surface Supply—Ogden River Project." Ralf R. Woolley 536
"Bacterial Contamination Improbable as an Implement of War." Carlo G. Flebus 147
Discussion: Charles T. Carnahan, 361
"Chicago Plant to Filter 320 Mgd." Loran D. Gayton 229
"Distinctive Features of the Irrigation Systems in San Diego County, Calif." Fred D. Pyle 645
"Multiple-Purpose Reservoir Operation." Nicholls W. Bowden 292
Discussion: M. R. Lewis, 433; Nicholls W. Bowden, 733
"Philadelphia Decides on Water Supply Program." Nathan B. Jacobs 606
"Placing the All-American Canal in Operation." J. L. Foster 580
"Use of Ozone for Water Purification." Arthur Wardel Consoer 701
"Water Resources of the Mid-Continent Area." Discussion: L. C. Crawford, 45; R. E. Kennedy, 45; Lloyd L. Harrold, 115

WATERWAYS
"Waterways and Gates for Hydroelectric Plants." George R. Rick and Ross M. Riegel 101
Discussion: P. E. Gisiger, 308

WEIRS
See Water, Flow of, Over Dams and Weirs

WELDING
Two welding research fellowships available 562
Welders' jargon 504

WELLS
"Artesian Versus Surface Supply—Ogden River Project." Ralf R. Woolley 536

WIND
"The Effect of Wind on Rainfall." F. B. Marsh 611

WORKS PROGRESS ADMINISTRATION
"Engineering Significance of the WPA." Perry A. Fellows 269

NAME INDEX

ABBETT, ROBERT W.
"Stability of Cantilever Poles in Sandy Soils" 301

ACKERMAN, ADOLPH J.
"Concrete Mixing and Placing on Large Dams—II. Performance and Prices" .. 19

ADAMS, COMFORT AVERY
Awarded Lamme Medal for 1940 261

AMIDON, ROGER E.
Determining the value of public works expenditures 175

ARLT, ARTHUR W.
"Tilt of Dams Measured with Optical Device" 273

ASLAKSON, CARL I.
"Precise Alinement by Sag-Wire and Optical Methods" 279

BARNES, DONALD P.
Editor of *Civil Engineering* called to war service 369

BARON, FRANCIS M.
"The Study of Earths—An American Tradition" 473

BAUKNIGHT, WILFRED
"Construction for Flood Control at Pittsburgh" 637

BEAM, CARL E.
Becomes Lieutenant Commander in active naval service 376

BEMAN, W. W.
"Trick Mechanisms Sustain Modern Aircraft" 87

BENSCOTER, STANLEY U.
Metric system should have wider study... 732
"Stability of Spillway Channel Side Walls"... 358
Use of microfilm technique in reproduction of technical articles... 672

BINGER, WALTER D.
"The Society and Civilian Protection"... 251

BLACK, E. B.
Presidential nominee for 1942... 673, 735

BOUGHTON, VAN TUYL
Biographical sketch... 736

BOWDEN, NICHOLLS W.
"Multiple-Purpose Reservoir Operation"
(Part I)... 292
(Part II)... 337

BRES, EDWARD S.
"The Defense Challenge"... 137

BRINKER, RUSSELL C.
"Sidelights on Construction in Hawaii"... 201

BROWN, ROBERT Q.
"Graphic Procedure for Interpreting Triaxial Compression Tests"... 41

BRUNS, T. C.
"Don't Hit Timber Piles Too Hard."... 726

BUDD, RALPH
Receives new distinction... 190

BURPEE, GEORGE W.
Biographical sketch... 736

BURRAGE, ROBERT H.
"Road Work in Theaters of Military Operations." (Part III)... 401

CAREY, WILLIAM N.
"Road Work in Theaters of Military Operations." (Part II)... 341

CAUGHEY, R. A.
"Column Analogy—Some Special Applications"... 294

CHAMBERS, RALPH H.
"Survey of Foundation Construction Methods"... 31

CHANDLER, E. L.
A genealogy that is "all wet"... 191

COE, CLEVELAND B.
"Safe Sight Distances for Highways"... 236

COLLET, M. H.
"A Portable Electric Water-Depth Gage"... 305

COLPITTS, EDWIN H.
Becomes Director of Engineering Foundation... 690

CONSOER, ARTHUR
"Use of Ozone for Water Purification."... 701

COOLEY, H. B.
"Economic Balance and the Engineer"... 387

COX, KENNETH C.
"Concrete Cylinders for Temporary Construction Trestles"... 667

CUMMINGS, A. E.
"Foundation Stresses in an Elastic Solid with a Rigid Underlying Boundary"... 665

DALTON, JOHN P.
"Cold Room Built to Test Army Equipment"... 545

DAVIS, ARTHUR P.
Dam to be named in his honor... 631

DAVIS, HARVEY N.
"Engineers and the Standard of Living"... 1

DAVIS, L. M.
"Cavitation Laboratory Practice"... 148

DAVISON, A. H.
"Computation of Flood Flows by Slope-Area Method"... 426

De BERARD, W. W.
Becomes Chicago City Engineer... 190

DEBLER, E. B.
"Conveyance Losses in Irrigation Canals"... 584
"Multiple-Use Aspects of Irrigation Projects"... 83

DEWANTE, RANDOLPH H.
"Flow in Effluent Troughs"... 212

DICKINSON, WILLIAM D.
Biographical sketch... 737

DIGGES, EDWARD W.
"Determination of Flood-Control Benefits"... 465

DODGE, E. R.
"Verification of Drop-Inlet Hydraulic-Model Studies by Field Tests"... 496

DOELEMAN, HERMAN F.
"Investigations for Roofs of U.S. Capitol"... 327

DOHERTY, ROBERT E.
"Complacency in Confusion"... 267

DOUTT, FRED V.
"Flood Damage and Clean-Up at Champion Fiber Plant"... 205

DUNHAM, FRED C.
"Triangulation for Tacoma Narrows Bridge"... 143

DURKEE, E. L.
"Erection Methods on Baton Rouge Bridge"... 150

ELIASSEN, ROLF
"Flexible Sewage Treatment for Army Camps."... 707

ENEY, WILLIAM J.
"Inexpensive Structural Models"... 429
"Model Analysis of Continuous Girders"... 521

FELD, JACOB
"Applications of Soil Mechanics in the Heavy Construction Industry"... 225

FELLOWS, PERRY A.
"Engineering Significance of the WPA"... 269

FINCH, J. K.
"Science Versus Art in Engineering"... 567

FLEBUS, CARLO G.
"Bacterial Contamination Improbable as an Implement of War"... 147

FLEMING, PHILIP B.
"Civil Engineering and the Wage and Hour Law"... 331

FOSTER, L. J.
"Placing the All-American Canal in Operation"... 580

FOSTER, WILLIAM S.
"Emulsified Asphalt Used to Stabilize a Highway Base Course"... 481

FOWLER, FREDERICK H.
"The Society in a National Emergency"... 459

FRUEND, H. L.
"The Battle Front for Internal Defense"... 635

FRUHAUF, BEDRICH
"Inclination of St. Martin's Tower"... 538

GALLOWAY, JOHN D.
"Theodore Dehone Judah—Railroad Pioneer"
(Part I)... 586
(Part II)... 648

GAYTON, LORAN D.
"Chicago Plant to Filter 320 Mgd"... 229

GERDES, H. G.
"Trends in Power-Plant Space Economy"... 214

GILMAN, W. C.
"Recent Public Utility Financing"... 529

GIVEN, J. A.
"Railroad Relocation and Construction Around Shasta Dam"
(Part I)... 461
(Part II)... 597

GODFREY, STUART C.
"Road Work in Theaters of Military Operations" (Part I)... 282

GOODRICH, C. M.
"Simple Solution for Unsymmetrical Cable Span"... 498

GOODRICH, ERNEST P.
"Municipal Transportation"... 353

GRASSY, RICHARD G.
"Staining Natural River Sands for Studies of Sediment Movement"... 668

GREEN, ROY M.
Nebraska Section aids its students and Juniors... 186

GREENLEAF, JOHN W., JR.
"Constructing a Treatment Plant for Industrial Waste"... 483

GREENSHIELDS, BRUCE D.
"An Appraisal of Engineering Education"... 218

GRUMM, FRED J.
"California's Plan for Freeways in Metropolitan Areas"... 569

GUISSINGER, JOHN A.
"Cotton Highways in Arkansas"... 663

HADLEY, HOMER M.
"Tests of Beams Reinforced with 'Bundle-Bars'"... 90

HALL, GEORGE L.
"Controlling Pollution of Oyster Growing Waters of Chesapeake Bay."... 715

HARDESTY, SHORTRIDGE
"The Rainbow Bridge at Niagara Falls"... 533

HARMON, BURT
"Contamination of Ground-Water Resources"... 345

HARROLD, JOHN C.
Sub-Atmospheric Hydraulic Models... 361

HASELWOOD, F. W.
"Highway Relocation for Shasta Project"... 641

HAZEN, W. N.
"Slide Rule for Designing Reinforced Concrete Slabs"... 731

HOLDEN, C. A.
"Profiles for Spectator Sight Lines"... 108

HORNBERGER, RUSSELL G.
"High-Head Pumping for Flathead Project"... 417

HOVEY, OTIS E.
Society Treasurer dies... 315, 365

HOWLAND, WARREN E.
"Backsight at a Turning Point"... 199

HUBERTY, M. R.
"Chemical Composition of Ground Waters"... 494

JACOBS, NATHAN B.
"Philadelphia Decides on Water Supply Program"... 606

JAGGER, JAMES E.
Appointed new Field Secretary of Society... 558

JELLY, IRVING A.
"Anatomy of an Old Covered Bridge"... 12

JENKINS, DAVIS S.
"Silt Samplers Compared in Special Tests"... 3

JOHNSON, B. H.
"Pre-Cast Concrete Piles for Residential Foundations"... 549

JOHNSON, C. FRANK
"Performance Tests of Large Pumping Plant."... 703
"Technique for a Survey of Old Sewers"... 27

JOHNSON, FRANK M.
"Cadastral Surveys of the General Land Office"... 7

JONAH, F. G.
Excerpts from his speech on honour in acceptance of Honorary Membership... 377

JONES, JONATHAN
"Weighing Reactions of Rainbow Bridge, Niagara Falls."... 730

JONES, RUDARD A.
"The Origin of the Voussoir Arch"... 259

JUDAH, THEODORE DEHONE
Biography of... 586, 648

KARPOFF, K. P.
"Time Required to Saturate an Earth Dam"... 238

KELTON, EDWIN C.
"Airport Planning for National Defense."... 718

KENNEDY, ROBERT E.
"Relation of Reynolds' Number R to Manning's n"... 111

KESNER, H. J.
"Some Applications of the Method of Tension Coefficients"... 38

KILLGORE, C. L.
"Shasta and Keswick Power Developments, Central Valley Project, California"... 573

KIPP, F. M., JR.
"The Port of Baltimore" ... 223

KIRBY, RICHARD SHELTON
"Specifications and Plans of Ancient Times" ... 393

KIRKPATRICK, RALPH Z.
Commerce diversion—Suez to Panama ... 362
The Peary humpty-dumpty lock gate ... 174

KIRKPATRICK, SIDNEY D.
"Preparedness and the Engineer" ... 325

KNOERLE, J. K.
"Double Swing Bridge Embodies Unique Details" ... 79

LAVIS, FRED
"Cooperation in Developing Latin America" ... 511

LEWIN, JOSEPH D.
"Shelter for Civilians in Modern Warfare" ... 157

LEWIS, HAROLD M.
"Esthetic Responsibilities of the Engineer" ... 154

LILLY, SCOTT B.
Biographical sketch ... 737

LIPPINCOTT, J. B.
"William Mulholland—Engineer, Pioneer, Raconteur"
(Part I) ... 105
(Part II) ... 161

LOCK, E. P., JR.
"Engineers in River-Crossing Operations" ... 139

LOWRY, RALPH
"Construction Features of Shasta Project"
(Part I) ... 350
(Part II) ... 409

MALLIS, A. GEORGE
"Automatic Infantry Combat Target" ... 610

MARSH, F. B.
"The Effect of Wind on Rainfall" ... 611

MASTERS, FRANK M.
"New Orleans Bridge Foundations" ... 220

MAYO, ROBERT S.
Topographic map revisions by engineer troops seen as national defense measure ... 43

McCLELLAN, L. N.
"Shasta and Keswick Power Developments, Central Valley Project, California" ... 573

McCROSKY, T. T.
"The Master Plan for New York City" ... 487

McFARLANE, W. D.
"The Decimal Point in Slide-Rule Computations" ... 171

MEAD, DANIEL W.
Honored at hydrology conference ... 505

MEAD, W. H.
"Cleaning a Large-Size Pipe Line in Place" ... 728

MERRILL, ROBERT HALL
"Photo-Surveying Assists Archeologists" ... 233

MEYER, OTTO H.
"Simplified Flood Routing" ... 306

MIDDENDORFF, KARL H.
"Design for Democracy" ... 444

MOORE, C. R.
"Oregon's Willamette Valley Project" ... 333

MOORMAN, ROBERT B. B.
"Shear and Bond Stresses in Wedge-Shaped Reinforced Concrete Beams" ... 114

MORELAND, J. W.
"Lake Traverse—Bois de Sioux Project" ... 405

MORRIS, SAMUEL B.
"A Proposed Undergraduate Civil Engineering Curriculum" ... 123
"Diagnosing Engineering Education" ... 77

MULHOLLAND, WILLIAM
Biography of ... 105, 161

NELIDOV, I.
"Theoretical Discharge Coefficients for a Weir of Ogee Profile" ... 40

NEWTON, CARROLL T.
"Construction of Military Air Fields" ... 207

NIEDERHOFF, A. E.
"Model Tests for Navigation Lock at Oregon City, Ore" ... 604
"Shear Strengths of Some Non-Ferrous Metals" ... 497

O'ROURKE, GEORGE M.
"Engineering Aspects of Safety Work in Railroad Maintenance" ... 593

O'SHAUGHNESSY, P. S.
"Conformity Between Model and Prototype Tests—Madden Dam Spillway" ... 491

PARKER, T. B.
"Tennessee Valley Emergency Construction" ... 10

PAUL, ELLIS E.
"Vertical-Lift Bridge Has Tower Drive" ... 288

PAULET, E. G.
"Horsepower Chart for Spur Gears" ... 112

PECKWORTH, HOWARD F.
Becomes editor of *Civil Engineering* ... 377

PIDGEON, R. E.
"Chart for Determining In-Place Density of Soils" ... 611

PILLSBURY, ARTHUR F.
"Corrosive Effect of Inorganic Fertilizers on Concrete" ... 348

PINCHBACK, R. T., JR.
"Sand-Shell Admixture as Flexible Road Base" ... 286

POOLE, B. A.
"New Sewage Treatment Plant at Anderson, Ind." ... 275

PYLE, FRED. D.
"Distinctive Features of the Irrigation Systems in San Diego County, Calif." ... 645

RATHBUN, J. CHARLES
"Primitive Houses of the Far East" ... 23

RAWN, A. M.
Biographical sketch ... 737

READY, LESTER S.
"Electric Power Supply of Pacific Southwest" ... 652

REAGEL, F. V.
"Soil Studies Applied to Highway Problems" ... 35

REEDER, K. A.
"Boulder Transmission Line Utilizes Poured-in-Place Foundations" ... 722

REYBOLD, EUGENE
Nominated for Chief of Engineers ... 559

RICH, GEORGE R.
"Waterways and Gates for Hydroelectric Plants" ... 101

RICHMOND, ALLEN P., JR.
Called to army service ... 625

RIEGEL, ROSS M.
"Waterways and Gates for Hydroelectric Plants" ... 101

ROBERTSON, J. M.
"On the Four Regimes of Open-Channel Flow" ... 169

ROBINS, THOMAS M.
"National Defense Construction Work" ... 470

ROUSE, HUNTER
"On the Four Regimes of Open-Channel Flow" ... 169

ROWE, R. ROBINSON
Professor N. G. Neare's column ... 70, 131, 258, 321, 382, 455, 504, 562, 631, 690, 749

RYAN, W. J.
"The Baird Creek Bridge" ... 468

SAIBEL, EDWARD
"A Simplified Method for Calculating Deflections of Beams" ... 669

SAWYER, DONALD H.
Past-President dies ... 453
Resolution on ... 556

SCHEIDT, MELVIN E.
"The Public Work Reserve" ... 577

SCHLEY, JULIAN L.
"Role of the Engineers in Warfare" ... 15

SCHWOB, C. E.
"Details of Design Affecting Operation of Sewage Treatment Plants" ... 541

SCOTT, ROBERT G.
"Airplane Impact Loads on Buried Pipes" ... 524

SEAL, BENJAMIN C.
"Nomograph Shows Economic Pipe Size" ... 172

SMALL, LEON
"Novel Construction of a Large Venturi Meter" ... 550

SMITH, FREDERICK C.
"Graphic Procedure for Interpreting Triaxial Compression Tests" ... 41

SNELL, ROY M.
"Construction of Pit River Bridge" ... 513

SOLNAR, GEORGE E., JR.
"Stable Equilibrium for Railway Cars" ... 413

SPENCER, CHARLES B.
"Steel-Frame Building Moved by New Method" ... 659

SPOFFORD, CHARLES M.
Biographical sketch ... 735

SPOTTS, MERHYLE F.
"Simplified Design of Indeterminate Truss Members" ... 303

STANTON, THOMAS E.
Biographical sketch ... 736

STERN, E. GEORGE
"Tests on Wood Joints with Metal Connectors" ... 298

STOWELL, E. RALPH
"Flow in Effluent Troughs" ... 212

STRANDHAGEN, A. G.
"Deflection of Variable-Depth Plate Girders" ... 547

SUOMINEN, W. N.
"Partially Restrained Structural Members" ... 110

SWIGER, W. F.
"Foundation Tests for Los Angeles Steam Plant" ... 711

TALBOT, A. N.
Honored by American Railway Engineering Association ... 750

TAMMEN, HENRY C.
"Vertical-Lift Bridge Has Tower Drive" ... 288

TARWATER, W. L.
"Runways for the Washington National Airport" ... 165

TAYLOR, THOMAS U.
Death of ... 443

TEDSKO, ANTON
"Wide-Span Hangars for the U.S. Navy" ... 697

TEXTOR, G. E.
"Economic Possibilities of Denison Dam" ... 601

THOMPSON, J. TRUEMAN
"Motor-Vehicle Driver Behavior Studied by New Methods" ... 589
"Motor-Vehicle Performance Studied by New Methods" ... 655

THOMPSON, T. K.
From the discusser's viewpoint ... 671

TIGNOR, PAUL E.
"Problems in Aircraft Plant Expansion" ... 389

TOWNE, CARROLL A.
"TVA Demountable Houses Solve Construction Camp Problem" ... 397

TROUT, CHARLES E.
Becomes new Treasurer of the Society ... 376

TROXELL, G. E.
"Reinforced Concrete Columns Subjected to Bending About Both Principal Axes" ... 237

TURNBULL, W. J.
"Steep Slopes Used in Nebraska Loess Soil" ... 526

VAN AUKEN, FRANK M.
"Design and Control Testing for the Embankment of Denison Dam" ... 477

VAN DEMAN, R. H.
"Harbor of the Sun—San Diego, Calif." ... 421

VANONI, VITO A.
"Velocity Distribution in Open Channels" ... 356

VAUGHAN, H. B., JR.
"World's Largest Seagoing Hopper Dredge"..... 517

WARREN, P. W.
"Chart for Determining In-Place Density of Soils"..... 611

WEINER, BERNARD L.
"Engineers and World Economy"..... 695

WEYMOUTH, FRANK E.
Honorary member dies..... 557

WILEY, RALPH B.
"Backsight at a Turning Point"..... 199

WILLIAMS, CHARLES P.
"Possum Kingdom Dam and Power House"..... 96

WILM, H. G.
"A Portable Electric Water-Depth Gage"..... 305

WILSON, WARREN E.
"Effects of Curvature in Supercritical Flow"..... 94

WOODS, K. B.
"Highway Research in Indiana"..... 423

WOOLLEY, RALF R.
"Artesian Versus Surface Supply—Ogden River Project..... 536

YARNALL, D. ROBERT
Awarded Hoover Medal..... 751

YOUNG, E. R.
"Sand-Shell Admixture as Flexible Road Base"..... 286